Modelling & Analytics

Version 1.0

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About us

Our clients depend on models to make critical financial and business decisions. Models can provide numerous benefits, including deep insights into data, efficient automation of processes and dynamic analysis of options and opportunities. High quality, robust modelling reduces the potential of misapplying business logic or encountering data errors, and decreases the risk that organisations will make poor decisions.

KPMG Modelling helps our clients utilise information to answer their business questions, by integrating large volumes of data from disparate sources and applying subject matter knowledge and technical expertise to build and review models. We work across all sectors and support the strategic direction of the whole business or parts of a business through a variety of capabilities.

Recognised leader in the provision of modelling services
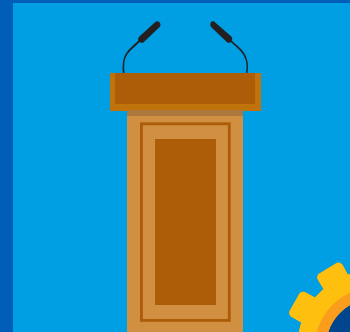
Tried-and-tested approaches underpinning all our capabilities
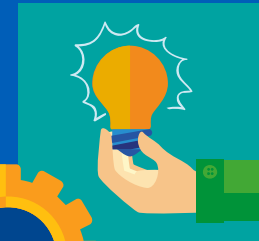
Highly technical skills coupled with strong commercial acumen

Agile methods adapted to suit your requirements

KPMG

Sector
coverage

Financial services

We help banking, insurance and investment management clients use advanced modelling techniques to make better decisions.

Financial institutions are experiencing unprecedented changes in markets and regulatory environments alongside increasing amounts of data. We can help clients collate and analyse this data to improve decision making and embrace digital opportunities by leveraging our modelling and data & analytics capabilities.

Strategy

We help clients determine the strategic direction of the business in response to challenges and opportunities arising from market or regulatory changes, such as Brexit, Basel IV, or ring fencing.

Analytics and Reporting

We capture, collate, and analyse data to enable financial or regulatory reporting and MI. We leverage this data for visual analytics and dashboarding to facilitate data driven decision-making.

Remediation

We provide a full range of remediation assistance, from building and validating calculation engines to reviewing policies. This includes PPI, Plevin, NOSIA, mis-selling, policy issues, and IT system errors.

Transformations

We help clients improve their business through finance and operational transformation. This includes development of models for business cases, transformation execution and benefits tracking.

Risk and Regulation

We work with regulatory teams, using reporting and data analytics, to manage risk and monitor the impacts of changing regulations. This includes BoE stress testing, FRTB, Basel IV, ring-fencing and CASS.

Deal Advisory

We develop and review financial forecasting and valuation models to support scenario analysis of M&A transactions, due-diligence, corporate finance and private equity projects.

Corporates

We provide tools to help our clients confidently address strategic and operational challenges.

Corporates face both bespoke and industry wide issues, such as staying competitive in increasingly uncertain markets, meeting consumer demands, changing market trends and disruptive technology. Using our market leading model build approach, we create robust, transparent and easy-to-use decision making tools. We also provide independent model testing to give our clients comfort that their models are robust and fit for purpose.

Management information

We source and transform data to build visualisation applications that provide management with near real time performance insights. This includes, monitoring of KPIs, trend analysis and actual versus budget assessments.

Investment/divestment

We build and review financial forecast models, providing scenario analysis for acquisition and joint venture opportunities, refinancing , investment returns and cost-benefit analysis.

Corporate planning and budgeting

We build and review models that support management in their near term budgeting and long term planning processes including end-user dashboard analytics.

Tax planning

We conduct analysis and comparison of the financial impact of tax regimes on corporate and capital structures. This includes Transfer Pricing, VAT and Brexit.

Supplier evaluation

We provide a framework for the quantitative comparison of competing bidders and provide shadow bids to set a benchmark for the delivery costs.

Template and reforecasting models

We build ongoing-use models for our clients that can be used as replicable tools across multiple investments and for monitoring and reforecasting purposes based on latest historic results.

Government & Infrastructure

We help clients analyse options, plan and appraise high-value bids, and optimise resource allocation.

Government & Infrastructure clients face tough decisions in allocating scarce resources and planning future investments. We help clients build models to improve efficiency and manage risks within their organisation, and provide independent model testing for internal or third-party comfort.

Workforce planning

We produce flexible workforce planning tools by combining data from various sources (such as HR, payroll, and timesheet data) with demand forecasts.

Model governance

We provide clients with a range of model governance frameworks to enable them to manage risks around usage of EUCs. These cover modelling policies, identification and control of high risk models to establish a Centre of Excellence.

Sell- and buy-side bid support

We construct bespoke financial forecast and valuation models to help clients bid for and comply with Invitation To Tender requirements. This includes key transaction details, assumptions, financing proposals and investor returns.

Property portfolio analysis

We conduct data analysis and visual analytics to evaluate property portfolio performance against key client metrics, incorporating internal, external and economic data sources.

Supplier evaluation

We provide a framework for the quantitative comparison of competing bidders and provide shadow bids to set a benchmark for the delivery costs.

Model testing

We provide independent testing of the accuracy, robustness and reliability of financial models, using specialist auditing software tools and a systematic and tried-and-tested methodology.

Health

We provide data analytics and visualisation tools to give Trusts strategic insight around savings and service optimisation.

Trusts need to focus their management and other resources on areas where it is needed most. We can provide valuable analytics and tools for tackling industry issues and transforming healthcare practices in the coming decade.

Cost improvement analytics

We provide comprehensive analytical outputs which highlight the key opportunities for cost savings and service rationalisation.

In-patient

We conduct analysis of Trust data on in-patients to show a picture of performance trends. This covers cancellations, electives, non-electives, bed occupancy, length of stay and day cases.

Readmissions

We provide a breakdown by specialty and hospital site in order to identify the key areas likely to reduce readmission rates.

Financial management

We develop automated tools that take all general ledger data from any account, creating a financial dashboard providing current performance and comparison of budget to prior year.

Out-patient

We conduct analysis of Trust data on out-patients to show a picture of performance trends. This covers DNA rates, procedures, cancellations, utilisation and first-to-follow-up appointments.

Benchmarking

We undertake benchmarking comparisons of the Trust's peers to identify areas where quick wins could be obtained by emulating top performing Trusts.

Our Capabilities

Model build

We develop bespoke models to help our clients make informed decisions

Using experienced resources with sector and technical knowledge, we design and build complex models for reporting and decision making purposes. These models incorporate financial, statistical and mathematical calculations, using various tools and leveraging data from different sources.

Strategic and transactional
Develop forecasting and valuation models for M&A, corporate finance and private equity projects to support the execution of deals.

Operations
Build and implement models that automate and improve business operations to drive efficiency around people, processes and technology.

Scenario
Design and build dynamic business case models for 'what if' analysis to inform strategic decisions on products, locations and various financial opportunities.
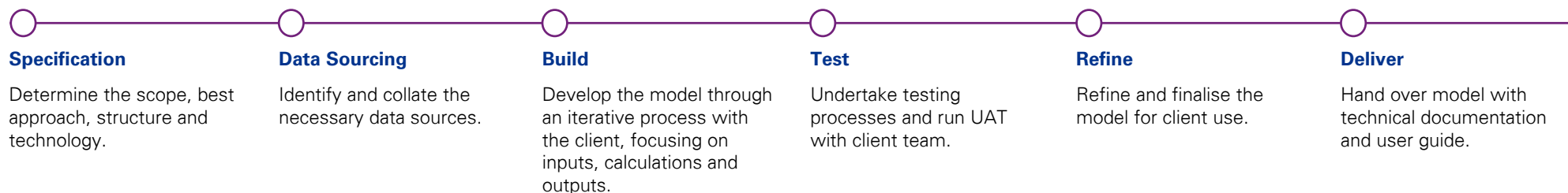
Risk and regulation
Create robust models that enable on-going monitoring and automated reporting to manage risk and compliance with regulatory requirements.

Our approach

Our approach is based on leading practice techniques for developing models which reduce the risk of errors in logic and business specification.

Specification	Data Sourcing	Build	Test	Refine	Deliver
Determine the scope, best approach, structure and technology.	Identify and collate the necessary data sources.	Develop the model through an iterative process with the client, focusing on inputs, calculations and outputs.	Undertake testing processes and run UAT with client team.	Refine and finalise the model for client use.	Hand over model with technical documentation and user guide.

Benefits of our approach

Efficiency: Agreeing on specifications before building and populating the model helps reduce the risk of design alterations later.

Reliability: We have a rigorous methodology that reduces the risk of errors, including testing using our proprietary Model Review Tool (MRT).

Auditability: Our models are designed to have transparent calculations and logic, making them user-friendly and easily auditable.

Usability: We facilitate use by actively engaging with the client throughout development, and providing in-model notes and detailed technical documentation.
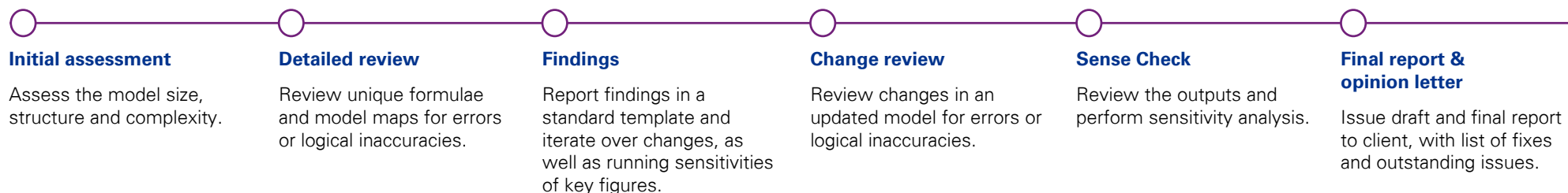
Model review

We have a tried-and-tested methodology and tools for reviewing and validating models to provide confidence in its use.

KPMG's Model Review Tool is our proprietary software, developed in-house. It is used to efficiently review logic and calculations, create maps of model dependencies, and generate reports that highlight best practice issues, errors and inconsistencies.

Full review

A detailed independent review of the unique formulae, maps, logic, best practices and documentation of the model. This enables a fit-for-purpose model sign off.

High-level review

An independent review of the overall build quality and structural soundness of the client's model against Leading practices.

Agreed-upon procedures

A review focused on specific areas of concern or high risk aspects of the model, as agreed with the client.

Compliance

A test of inputs, calculations and outputs against contractual requirements to provide confidence that key terms have been accurately reflected in the model.

Our approach

We have developed a structured and iterative approach for independent reviews to ensure that issues are raised, tracked and addressed in an efficient manner.

Initial assessment

Assess the model size, structure and complexity.

Detailed review

Review unique formulae and model maps for errors or logical inaccuracies.

Findings

Report findings in a standard template and iterate over changes, as well as running sensitivities of key figures.

Change review

Review changes in an updated model for errors or logical inaccuracies.

Sense Check

Review the outputs and perform sensitivity analysis.

Final report & opinion letter

Issue draft and final report to client, with list of fixes and outstanding issues.

A closer look at MRT

MRT is a review tool used by our trained specialists to analyse spreadsheets and raise issues, errors and inconsistencies in a clear manner. Typical findings include:

— Inaccurate formulae or calculations

— Poor model structure and lack of consistency

— Separation of inputs, calculations and outputs

— Missing checks, validations or documentation

Visual analytics

We have a tried-and-tested methodology for developing visual reports and dashboards.

Using our reporting solutions delivery methodology, we design, build and deploy high-impact visual reports and dashboards with a focus on information and interface design to help clients make sense of large data sets. These are developed across a range of platforms, including QliKView, Tableau, Power BI, and SQL Server.

Our approach

Our approach to delivering visual analytics solutions ensures that the activities we perform across the stages of a visual analytics project's lifecycle (plan, design, build, and deploy) are done in line with best practices.

The reporting solutions delivery methodology is specifically designed to ensure that the solutions we develop deliver useful insights and can be built upon by our clients in the future as their needs change.

Operational MI and reporting
Development of dashboards to monitor KPIs and trends on an ongoing basis. This includes assessment of actual versus expected performance by products, BUs, functions and locations.

Industry dashboarding
Analysis and visual presentation of industry performance trends, peer group analysis, KPIs and benchmarks.

Hypothesis driven analysis
Presentation of disparate data through impactful graphs and visuals to enable the testing and ultimately proving or disproving of assertions.

Location analysis
Mapping out the performance of different business units or cluster groups using geo-mapping across regions, cities and countries to support geographical decision making.
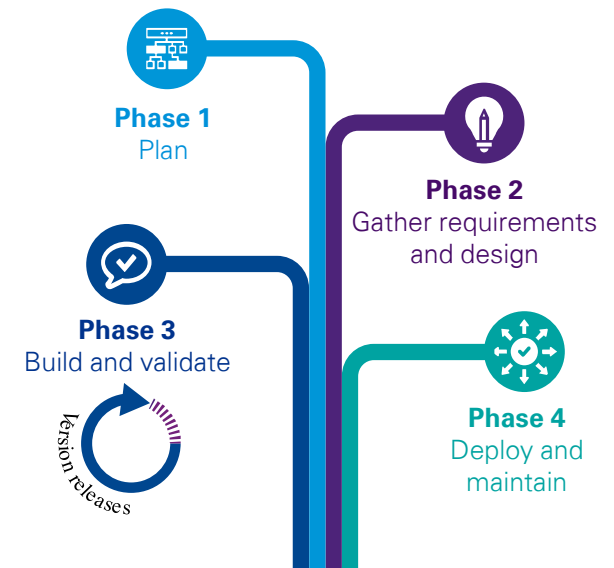
Benefits of our approach

Accessibility: Empowers users by providing them with access to relevant real time data and analytical tools.

Collaboration: Improves collaboration by aligning metrics and KPIs, and creating a single source of information.

User Friendly: Enables engagement and drives understanding of large amounts of complex data.

Rapid Insights: Provides deeper insights into business performance by presenting relevant outputs in a single place.

Phase 1
Plan

Phase 2
Gather requirements and design

Phase 3
Build and validate

Phase 4
Deploy and maintain

Version releases

Data and analytics

We help our clients navigate through large volumes of data and deliver insights through advanced analytics.

We deliver data & analytics services to enable data-driven decision making using multiple platforms, including Access, SQL, C#, R and Alteryx.

Data modelling
Development of a robust calculation engine that extracts data, undertakes computations and produces required outputs. The model calculates in real-time seamlessly through each stage.

Hypothesis driven analysis
Analysis of disparate data through mathematical and statistical means to enable the testing and ultimately proving or disproving of assertions.

Extract transform load
Development of robust and bespoke data structures to enable reporting and analytics. This includes database design, and the extraction, cleansing and mapping of data.

Location based analytics
Combining location information with other data to help clients perform location based analytics and support geographical decision making.

Our approach

Internal data resources

External data resources

| Data source identification | Data collection | Data storage and processing | Data design decisions | Data for modelling and visualisation |
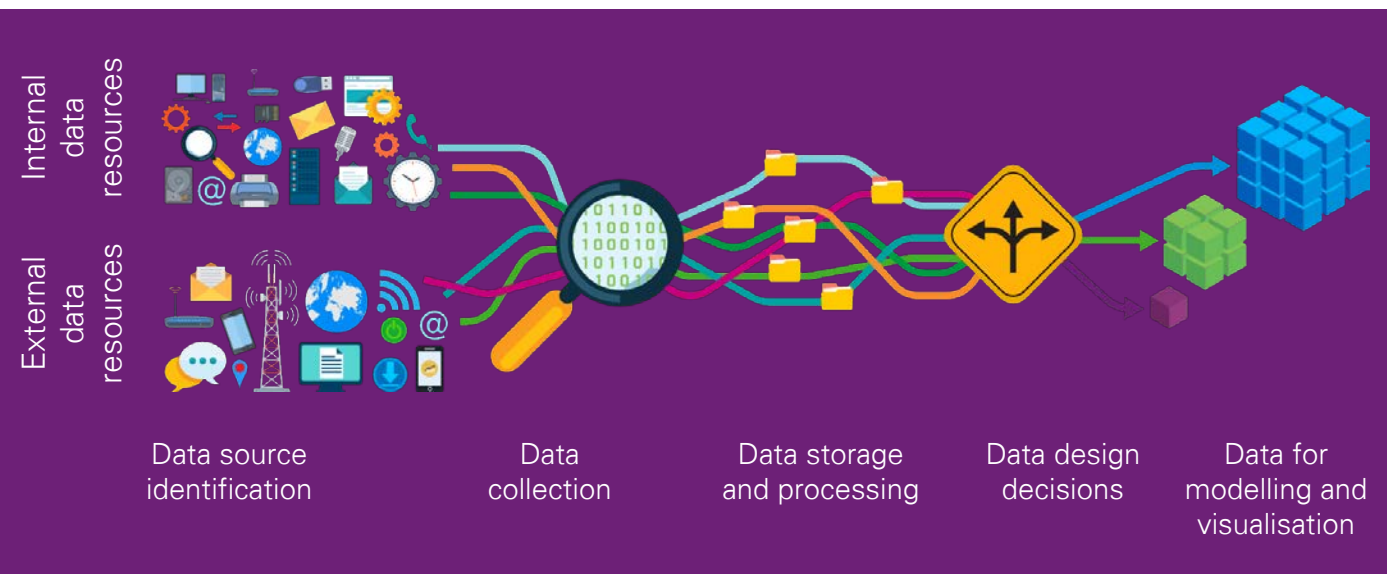
Benefits of our approach

Rapid insight: we can deliver insights from data in weeks rather than months or years.

Data gap analysis: by matching and reconciling different data sources, we remediate data quality and consistency issues.

Auditability: our analytics are designed to be transparent and easily auditable to enhance confidence and allow for testing.

Accessibility: empowers users by providing them with access to relevant real time data and analytical tools.

Training

We provide classroom-based, instructor-led training courses that cover a number of modelling disciplines and which are underpinned by our tried and tested leading approaches to modelling

Our courses introduce and enhance participants' skills in the following areas:

- Best practice modelling
- Forecasting financial statements
- Using Visual Basic for Excel
- Data mining and manipulation
- Discounted cash flow
- Project finance modelling
- Acquisition modelling
- LBO modelling

Theory

Group discussion

Excel exercises

Demos

Our approach

Our courses are conducted in an interactive manner, using a variety of formats, such as instructor led-demonstrations and hands-on exercises.

The courses are conducted by experienced financial modelling practitioners who also work on a variety of advisory engagements across a range of different sectors.

Our classroom sizes are small enough such that each participant receives sufficient one-on-one attention from the instructor.

The models used and produced during our courses are flexible, robust, transparent and user-friendly in nature.

Participants are provided with:

- Comprehensive slide packs with easy-to-follow illustrations of our approaches. These packs serve as useful reference materials following course completion.

- Workbooks containing exercises designed to crystallize the methods taught, together with full sets of solutions.

- Models that are built up step-by-step and which can be used as a starting template for similar models in future.

- Additional homework exercises that can be provided upon request.

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